<u>REMARKS</u>

Favorable reconsideration of this application is respectfully requested.

Claims 1-16, 18-20, 30, and 31 are pending in this application. New Claims 30 and 31 are herein added for examination. Applicant submits those claims are clear from the original disclosure, see for example original claim 19, and thus do not add any new matter. Claims 3-13, 16, and 18-20 stand withdrawn from consideration. Claims 1-2 and 14-15 stand rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent 6,055,985 to <u>Bae et al.</u> (herein "<u>Bay</u>") in view of U.S. Patent 5,365,254 to <u>Kawamoto</u> or U.S. Patent 5,535,317 to <u>Tanaka et al.</u> (herein "<u>Tanaka</u>").[1] That rejection is traversed as now discussed.

Independent Claim 1 is amended to clarify features recited therein, and now specifically recites:

> graph entering means for accepting an input action <u>for</u>
> <u>an operator to draw</u> an injection graph having chronologically
> changing injecting conditions in a form of a free curve, a
> plurality of straight lines, a plurality of passing points, or a
> plurality of rectangular regions <u>directly</u> into the displayed
> plotting chart image on the touch panel;

The above-noted feature clarified in independent Claim 1 is believed to be clear from the original disclosure, see for example Figure 7 and the specification at page 18, line 24 et seq.

According to the features clarified in independent Claim 1, and with reference to Figure 7 in the present specification as a non-limiting example, an injection graph can be drawn into a displayed plotting chart image on a touch panel directly by an operator. In the example shown in Figure 7, the operator can directly use the write pen 108 to draw an injection graph into the displayed plotting chart image. With that claimed structure a

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[1] The statement for the rejection on page 2 of the Office Action cites <u>Tanaka</u> as part of the rejection, but on page 3 the Office Action refers to a reference to <u>Risberg</u>. Applicant notes no reference to <u>Risberg</u> has been made of record or officially cited. If the rejection is actually based on <u>Risberg</u> applicant respectfully requests that be clarified and <u>Risberg</u> be made of record.

complex liquid injection process for injecting a liquid at an injection rate that changes with time can be easily and precisely entered by an operator.

Applicant submits the features clarified in the claims as written clearly distinguish over the applied art.

The outstanding rejection relies on Bae as the primary reference, but applicant submits Bae significantly differs from the claims as written. Applicant submits Bae does not disclose or suggest anything even related to the claimed "graph entering means" as recited in independent claim 1. Bae merely discloses use of a control console 24 that may be an LCD display to provide an operator input and control of an injector, see for example Bae at cited column 11, lines 35-39. Such disclosures in Bae are not at all related to the claimed "graph entering means".

The outstanding rejection newly additionally cites Kawamoto at Figure 3 to disclose a touch panel-type display screen 810 that displays a data area 11 and accepts input actions including a graphic entering means and display means.[2]

In reply to that grounds newly citing Kawamoto, applicant submits Kawamoto also does not disclose or suggest the "graphic entering means" as currently written. Kawamoto in that respect does not disclose or suggest an operator being able to draw an injection graph directly into a display plotting chart image on a touch panel. Applicant submits Kawamoto merely discloses a trend graph representing time-serially data collected from a monitoring area at fixed intervals. In Figure 3 Kawamotou discloses use of a touch area 13. Kawamoto, however, discloses that touch area 13 merely to move the cursor 12. For example, at column 2, lines 65-67 Kawamoto states the "cursor 12 can be moved to a touch zone by touching touch area 13, and then moved by one dot units using the fine adjustment cursor movement key 14". Kawamoto further discloses for example at column 3, lines 27-29 moving a cursor

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[2] Office Action of September 17, 2009, page 3, second full paragraph.

line based on an input from the touch area 13, and similarly at column 4, lines 35-40, Kawamoto discloses by touching the touch area 13, provided along the X axis of the display area 11, it is possible to move the cursor 12 instantly to the touched position.

In view of such disclosures applicant submits it is clear Kawamoto merely discloses use of a touch area 13 to initially position a cursor. Kawamoto does not disclose or suggest a graph entering means that can accept an input action for an operator to draw an injection graph directly into a displayed plotting chart touch panel. Thereby, the citations to Figure 3 in Kawamoto clearly cannot cure the above-noted deficiencies in Bae.

Further, applicant submits Tanaka merely discloses a graph display apparatus for calculating a graph from an input functional formula, e.g., $Y=f(x)$, and displaying the calculated graph on an X-Y coordinate system.[3]

Applicant submits Tanaka also does not disclose or suggest the above-noted "graph entering means for accepting an input action for an operator to draw an injection graph ... directly into a display plotting chart image on the touch panel". Thereby, Tanaka cannot cure the above discussed deficiencies of Bae in view of Kawamoto.

Also, as noted above, the citation to Risberg in the Office Action in the middle of page 3 is not understood as no reference to Risberg has been made of record. From the noted description of Risberg in the Office Action at the middle of page 3, it would not appear even the noted citations would correspond to the clarified claimed features of a "graph entering means for accepting an input action for an operator to draw an injection graph... directly into the display plotting chart image on the touch panel".

In view of the foregoing comments, applicant submits amended independent claim 1 as currently written, and accordingly the claims dependent therefrom, are allowable over the applied art.

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[3] Tanaka, for example at column 1, lines 6-13.

As noted above the present response also adds new dependent claims 30 and 31 for examination. Applicant submits those new dependent claims recite features that even further distinguish over the applied art. More specifically, according to those claims the liquid injector additionally includes a display that displays schematic images of the human body on a touch panel. With such a structure the schematic images are displayed on the touch panel along with the injection graph, which provides an additional benefit that an operator can make sure the displayed injection graph corresponds with regions, to be imaged easily and visually. Applicant submits the additional features recited in new dependent claims 30 and 31 even further distinguish over the applied art.

The present response also maintains withdrawn claims 3, 4, 6-13, 16, and 18-20. Amended independent claim 1 is still believed to be generic to all those claims, and in view of the foregoing comments amended independent claim 1 is believed to be allowable. That is, each of those withdrawn claims 3, 4, 6-13, 16, and 18-20 depends either directly or indirectly on amended independent claim 1. Those claims are also herein amended to be consistent with the presently submitted amendments to independent claim 1. Thereby, at this point applicants submit reinstatement of those withdrawn claims 3, 4, 6-13, 16, and 18-20 is proper.

Thereby, applicants respectfully submit the present application is in condition for allowance with each of pending claims 1-16, 18-20, 30, and 31.

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As no other issues are pending in this application, it is respectfully submitted that the

present application is now in condition for allowance, and it is hereby respectfully requested
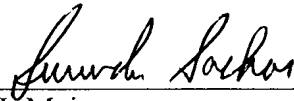
that this case be passed to issue.

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